Billing Code

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

[Docket No. FWS-R7-ES-2021-0168; FXES111607MRG01–223–FF07CAMM00]

Marine Mammals; Incidental Take During Specified Activities; Proposed Incidental Harassment Authorization for Southeast Alaska Stock of Northern Sea Otters in Ketchikan, Alaska

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of receipt of application; proposed incidental harassment authorization; draft environmental assessment; request for comments.

SUMMARY: We, the U.S. Fish and Wildlife Service, in response to a request under the Marine Mammal Protection Act of 1972, as amended, from the United States Coast Guard, propose to authorize nonlethal, incidental take by harassment of small numbers of the Southeast Alaska stock of northern sea otters between July 1, 2022, and June 30, 2023. The applicant requested this authorization for take that may result from activities associated with a floating dock expansion project in the Tongass Narrows at the U.S. Coast Guard Base Ketchikan. We estimate that this project may result in the nonlethal incidental take of up to five northern sea otters from the Southeast Alaska stock. This proposed authorization, if finalized, will be for up to 35 takes of 5 northern sea otters by Level B harassment only. No injury or mortality is expected or will be

authorized.

DATES: Comments on the proposed incidental harassment authorization and the accompanying draft environmental assessment must be received by [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*].

ADDRESSES: *Document availability:* You may view this proposed authorization, draft environmental assessment, the application package, supporting information, and the lists of references cited herein at *https://www.regulations.gov* under Docket No. FWS-R7-ES-2021-0168, or these documents may be requested as described under **FOR FURTHER INFORMATION CONTACT**.

Comment submission: You may submit comments on this proposed authorization by one of the following methods:

• *U.S. mail:* Public Comments Processing, Attn: Docket No. FWS-R7-ES-2021-0168, U.S. Fish and Wildlife Service, MS: PRB (JAO/3W), 5275 Leesburg Pike, Falls Church, Virginia 22041–3803.

• *Electronic submission:* Federal eRulemaking Portal at: *https://www.regulations.gov.* Follow the instructions for submitting comments to Docket No. FWS-R7-ES-2021-0168. We will post all comments at *https://www.regulations.gov.* You may request that we withhold personal identifying information from public review; however, we cannot guarantee that we will be able to do so. See **Request for Public Comments** for more information.

FOR FURTHER INFORMATION CONTACT: Sierra Franks, Marine Mammals Management, U.S. Fish and Wildlife Service, MS–341, 1011 East Tudor Road, Anchorage, Alaska, 99503, by email at *R7mmmregulatory@fws.gov*; or by telephone at 1–800–362–5148. Individuals in the United States who are deaf, deafblind, hard of hearing, or have a speech

disability may dial 711 (TTY, TDD, or TeleBraille) to access telecommunications relay services. Individuals outside the United States should use the relay services offered within their country to make international calls to the point-of-contact in the United States.

SUPPLEMENTARY INFORMATION:

Background

Section 101(a)(5)(D) of the Marine Mammal Protection Act of 1972 (MMPA; 16 U.S.C. 1361, et seq.) authorizes the Secretary of the Interior (Secretary) to allow, upon request, the incidental, but not intentional, taking by harassment of small numbers of marine mammals in response to requests by U.S. citizens (as defined in title 50 of the Code of Federal Regulations (CFR) in part 18, at 50 CFR 18.27(c)) engaged in a specified activity (other than commercial fishing) within a specific geographic region for periods of not more than 1 year. The Secretary has delegated authority for implementation of the MMPA to the U.S. Fish and Wildlife Service (Service or we). According to the MMPA, the Service shall authorize this harassment if we find that such taking for the 1-year period:

(1) is of small numbers of marine mammals of a species or stock;

(2) will have a negligible impact on such species or stocks; and

(3) will not have an unmitigable adverse impact on the availability of these species or stocks for taking for subsistence uses by Alaska Natives.

If the requisite findings are made, we will issue an authorization that sets forth the following, where applicable:

(a) permissible methods of taking;

(b) means of effecting the least practicable adverse impact on such species or stock and its habitat and the availability of the species or stock for subsistence uses; and

(c) requirements for monitoring and reporting of such taking by harassment, including, in certain circumstances, requirements for the independent peer review of proposed monitoring

plans or other research proposals.

The term "take" means to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal. "Harassment" means any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild (the MMPA defines this as "Level A harassment"), or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (the MMPA defines this as "Level B harassment").

The terms "negligible impact" and "unmitigable adverse impact" are defined in 50 CFR 18.27 (i.e., regulations governing small takes of marine mammals incidental to specified activities) as follows: "Negligible impact" is an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival. "Unmitigable adverse impact" means an impact resulting from the specified activity: (1) that is likely to reduce the availability of the species to a level insufficient for a harvest to meet subsistence needs by (i) causing the marine mammals to abandon or avoid hunting areas, (ii) directly displacing subsistence users, or (iii) placing physical barriers between the marine mammals and the subsistence hunters; and (2) that cannot be sufficiently mitigated by other measures to increase the availability of marine mammals to allow subsistence needs to be met.

The term "small numbers" is also defined in 50 CFR 18.27. However, we do not rely on that definition here as it conflates "small numbers" with "negligible impacts." We recognize "small numbers" and "negligible impact" as separate and distinct considerations when reviewing requests for incidental harassment authorizations (IHA) under the MMPA (see *Natural Res. Def. Council, Inc.* v. *Evans*, 232 F. Supp. 2d 1003, 1025 (N.D. Cal. 2003)). Instead, for our small numbers determination, we estimate the likely number of takes of marine mammals and evaluate if that take is small relative to the size of the species or stock.

The term "least practicable adverse impact" is not defined in the MMPA or its enacting regulations. For this IHA, we ensure the least practicable adverse impact by requiring mitigation measures that are effective in reducing the impact of project activities, but they are not so restrictive as to make project activities unduly burdensome or impossible to undertake and complete.

If the requisite findings are made, we will issue an IHA, which will set forth the following, where applicable: (i) permissible methods of taking; (ii) other means of effecting the least practicable impact on the species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of the species or stock for taking for subsistence uses by coastal-dwelling Alaska Natives (if applicable); and (iii) requirements for monitoring and reporting such taking by harassment.

Summary of Request

On September 10, 2021, the United States Coast Guard (hereafter "USCG" or "the applicant") submitted an adequate and complete request to the Service for authorization to take by Level B harassment a small number of northern sea otters (*Enhydra lutris kenyoni*) (hereafter "sea otters" or "otters" unless another species is specified) from the Southeast Alaska stock. The USCG expects take by harassment may occur during the construction of their floating dock in the Tongass Narrows at the USCG Base Ketchikan in Ketchikan, Alaska.

Description of Specified Activities and Specific Geographic Region

The specified activity (the "project") involves installation of ten 61-centimeter (cm) (24-inch (in)) steel guide pipes for a floating dock section at the USCG Base Ketchikan. Pipes will be installed over a period of up to 30 days between July 1, 2022, and June 30, 2023. The project will entail three phases of sound-producing construction. First, depending upon the overburden thickness and bedrock bottom conditions, pre-drilling sockets for each guide pile would be

drilled. Two piles are expected to be drilled per day, taking 60 minutes each, for a total of 2 hours of rock-socket drilling noise per day. Following pre-drilling, 61-cm (24-in) steel pipes would be inserted into the rock sockets and a vibratory hammer would be used to insert and position the pile within individual sockets. Finally, an impact driver would be used to proof the newly installed piles by tapping each pile five times and then stabilizing using tremie concrete in the pile socket.

Additional project details may be reviewed in the application materials available as described under **ADDRESSES** or may also be requested as described under **FOR FURTHER INFORMATION CONTACT.**

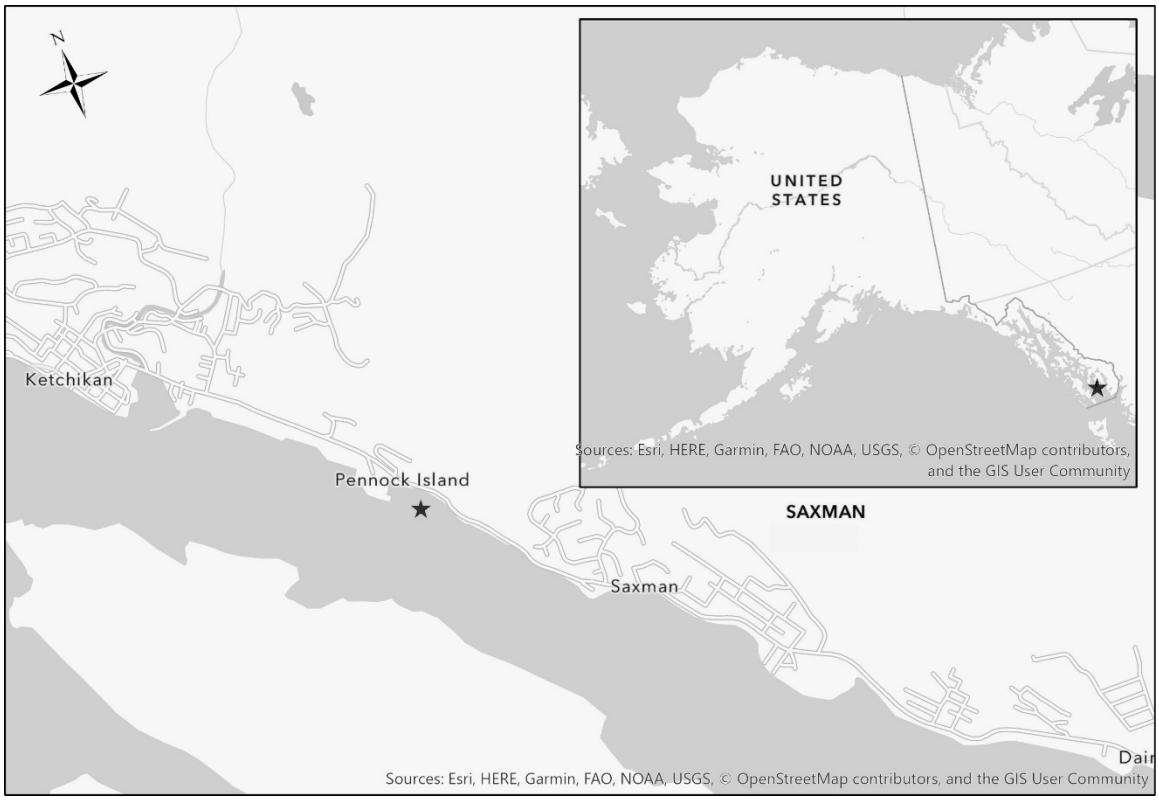

Figure 1. Specified geographic region of the pile-driving activities.

Description of Marine Mammals in the Specific Geographic Region

The northern sea otter is the only marine mammal under the Service's jurisdiction that normally occupies the Northeast Pacific Ocean. Sea otters in Alaska are represented by three stocks: the Southwest Alaska stock, the Southcentral Alaska stock, and the Southeast Alaska

stock. Those in the Northeast Pacific Ocean belong to the Southeast Alaska stock. Detailed information about the biology of the Southeast Alaska stock can be found in the most recent stock assessment report (USFWS 2014), which can be found in *https://www.regulations.gov* in Docket No. FWS-R7-ES-2012-0019.

Sea otters may be distributed anywhere within the specific geographic region other than upland areas; however, they generally occur in shallow water near the shoreline. They are most commonly observed within the 40-meter (m) (131-foot (ft)) depth contour (USFWS 2014), although they can be found in areas with deeper water. Ocean depth is generally correlated with distance to shore, and sea otters typically remain within 1 to 2 kilometers (km) (0.62 to 1.24 miles (mi)) of shore (Riedman and Estes 1990). They tend to be found closer to shore during storms, but they venture farther out during good weather and calm seas (Lensink 1962; Kenyon 1969). In the 14 aerial surveys conducted from 1995 to 2012 in Southeast Alaska, 95 percent of otters were found in areas shallower than 40 m (131 ft) (Tinker et al. 2019). Areas important to mating for the Southeast Alaska stock include marine coastal regions containing adequate food resources within the 40-m (131-ft) depth contour.

The 1995–2012 survey data was incorporated into a spatiotemporal model of ecological diffusion using a Bayesian hierarchical framework (Eisaguirre et al. 2021). This model was used to develop the most recent estimate of 26,347 otters in the Southeast Alaska stock and generated otter abundance estimates at a resolution of 400 m by 400 m. Abundance values within the project area ranged from 0.13 to 0.27 otters per 0.16 square kilometer (km^2) (0.062 square miles (mi^2)). Distribution of the population during the proposed project is likely to be similar to that detected during sea otter surveys, as work will occur during the same time of the year that these surveys were conducted.

The documented home range sizes and movement patterns of sea otters illustrate the types of movements that could be seen among otters responding to the proposed activities. Sea otters are nonmigratory and generally do not disperse over long distances (Garshelis and

Garshelis 1984). They usually remain within a few kilometers of their established feeding grounds (Kenyon 1981). Breeding males stay for all or part of the year in a breeding territory covering up to 1 km (0.62 mi) of coastline while adult females have home ranges of approximately 8 to 16 km (5 to 10 mi), which may include one or more male territories. Juveniles move greater distances between resting and foraging areas (Lensink 1962; Kenyon 1969; Riedman and Estes 1990; Estes and Tinker 1996). Although sea otters generally remain local to an area, they are capable of long-distance travel. Otters in Alaska have shown daily movement distances greater than 3 km (1.9 mi) at speeds up to 5.5 km per hour (km/hr) (3.4 mi per hour (mi/h)) (Garshelis and Garshelis 1984).

Potential Impacts of the Specified Activities on Marine Mammals

Exposure of Sea Otters to Noise

The specified activities have the potential to result in take of sea otters by harassment from noise. Here, we characterize "noise" as sound released into the environment from human activities that exceeds ambient levels or interferes with normal sound production or reception by sea otters. The terms "acoustic disturbance" or "acoustic harassment" are disturbances or harassment events resulting from noise exposure. Potential effects of noise exposure are likely to depend on the distance of the otter from the sound source and the level of sound the otter receives. Temporary disturbance or localized displacement reactions are the most likely to occur. No lethal take or Level A harassment are anticipated, nor can the Service authorize lethal take through an IHA. Therefore, none will be authorized.

Whether a specific noise source will affect a sea otter depends on several factors, including the distance between the animal and the sound source, the sound intensity, background noise levels, the noise frequency, the noise duration, and whether the noise is pulsed or continuous. The actual noise level perceived by individual sea otters will depend on distance to the source, whether the animal is above or below water, atmospheric and environmental

conditions, and aspects of the noise emitted.

We expect the actual number of otters experiencing Level B harassment by noise to be five or fewer. While individual otters may be taken more than once, the total number of incidental takes of sea otters is expected to be less than 35.

Sea Otter Hearing

Pile-driving activities produce sound frequencies that fall within the hearing range of sea otters. Controlled sound exposure trials on southern sea otters (*Enhydra lutris nereis*) indicate that otters can hear frequencies between 125 hertz (Hz) and 38 kilohertz (kHz) with best sensitivity between 1.2 and 27 kHz (Ghoul and Reichmuth 2014). Aerial and underwater audiograms for a captive adult male southern sea otter in the presence of ambient noise suggest the sea otter's hearing was less sensitive to high-frequency (greater than 22 kHz) and low-frequency (less than 2 kHz) sound than terrestrial mustelids but was similar to that of a California sea lion (*Zalophus californianus*). However, the subject otter was still able to hear low-frequency sounds, and the detection thresholds for sounds between 0.125–1 kHz were between 116–101 decibels (dB), respectively. Dominant frequencies of southern sea otter vocalizations are between 3 and 8 kHz, with some energy extending above 60 kHz (McShane et al. 1995; Ghoul and Reichmuth 2012a).

Exposure to high levels of sound may cause changes in behavior, masking of communications, temporary or permanent changes in hearing sensitivity, discomfort, and injury to marine mammals. Unlike other marine mammals, sea otters do not rely on sound to orient themselves, locate prey, or communicate underwater; therefore, masking of communications by anthropogenic sound is less of a concern than for other marine mammals. However, sea otters do use sound for communication in air (especially mothers and pups; McShane et al. 1995) and may avoid predators by monitoring underwater sound (Davis et al. 1987).

Exposure Thresholds

Noise exposure criteria for identifying underwater noise levels capable of causing Level

A harassment (injury) to marine mammal species have been established for "other marine carnivores," which includes sea otters using the same methods as those used by the National Marine Fisheries Service (NMFS) (Southall et al. 2019). These criteria are based on estimated levels of sound exposure capable of causing a permanent shift in sensitivity of hearing (e.g., a permanent threshold shift (PTS) (NMFS 2018)). A PTS occurs when noise exposure causes hairs within the inner ear system to die.

Sound exposure thresholds incorporate two metrics of exposure: the peak level of instantaneous exposure likely to cause a PTS and the cumulative sound exposure level during a 24-hour period (SEL_{CUM}). They also include weighting adjustments for the sensitivity of different species to varying frequencies. The PTS-based injury criteria were developed from theoretical extrapolation of observations of temporary threshold shifts (TTS) detected in lab settings during sound exposure trials (Finneran 2015). For "other marine carnivores," a PTS is predicted to occur at 232 dB peak or 203 dB SELCUM for impulsive sound and 219 dB SELCUM for nonimpulsive (continuous) sound.

Thresholds at which TTS is expected to occur have been used as a proxy for Level B harassment (see 70 FR 1871, January 11, 2005; 71 FR 3260, January 20, 2006; and 73 FR 41318, July 18, 2008). Southall et al. (2007) derived TTS thresholds for pinnipeds based on 212 dB peak and 171 dB SELCUM. Exposures resulting in TTS in pinnipeds were found to range from 152 to 174 dB (183 to 206 dB sound exposure level (SEL)) (Kastak et al. 2005) with a persistent TTS, if not a PTS, after 60 seconds of 184 dB SEL (Kastak et al. 2008). Kastelein et al. (2012) found small but statistically significant TTSs at approximately 170 dB SEL (136 dB, 60 minutes (min)) and 178 dB SEL (148 dB, 15 min). Southall et al. (2019) summarized these and other studies and used the data to develop TTS thresholds for "other marine carnivores" of 188 dB SELCUM for impulsive sounds and 199 dB SELCUM for nonimpulsive sounds.

The NMFS criteria (2018) do not identify thresholds for avoidance of Level B harassment. For pinnipeds, NMFS has adopted a 160-dB threshold for Level B harassment from

exposure to impulse noise and a 120-dB threshold for continuous noise (NMFS 1998; HESS 1999; NMFS undated). These thresholds were developed from observations of mysticete (baleen) whales responding to airgun operations (e.g., Malme et al. 1983a, b; Richardson et al. 1986, 1995) and from equating Level B harassment with noise levels capable of causing TTS in lab settings. Southall et al. (2007, 2019) assessed behavioral response studies and found considerable variability among pinnipeds. The authors determined that exposures between approximately 90 to 140 dB generally do not appear to induce strong behavioral responses in pinnipeds in water. However, they found behavioral effects, including avoidance, become more likely in the range between 120 to 160 dB, and most marine mammals showed some, albeit variable, responses to sound between 140 to 180 dB. Wood et al. (2012) later adapted the approach identified in Southall et al. (2007) to develop a probabilistic scale for marine mammal taxa at which 10 percent, 50 percent, and 90 percent of individuals exposed are assumed to produce a behavioral response. For many marine mammals, including pinnipeds, these response rates were set at sound pressure levels of 140, 160, and 180 dB, respectively.

We have evaluated these thresholds and determined that the Level B harassment threshold of 120 dB for nonimpulsive noise is not applicable to sea otters. The 120-dB threshold is based on studies conducted by Malme et al. in the 1980s, during which gray whales (*Eschrichtius robustus*) were exposed to experimental playbacks of industrial noise. Similar playback studies conducted off the coast of California (Malme 1983a, 1984) included a southern sea otter monitoring component (Riedman 1983, 1984). While the 1983 and 1984 studies detected probabilities of avoidance in gray whales comparable to those reported in Malme et al. (1988), there was no evidence of disturbance reactions or avoidance in southern sea otters. Thus, given the different range of frequencies to which sea otters and gray whales are sensitive, the NMFS 120-dB threshold based on gray whale behavior is not appropriate for predicting sea otter behavioral responses, particularly for low-frequency sound.

Based on the lack of sea otter disturbance response or any other reaction to the 1980's

playback studies and the absence of a clear pattern of disturbance or avoidance behaviors attributable to underwater sound levels up to approximately 160 dB resulting from low-frequency broadband noise, we assume 120 dB is not an appropriate behavioral response threshold for sea otters exposed to continuous underwater noise.

Thus, using the best available scientific information about sea otters, the Service has set 160 dB of received underwater sound as a threshold for Level B harassment for sea otters for this proposed IHA based on the work of Ghoul and Reichmuth (2012a, b), McShane et al. (1995), NOAA (2005), Riedman (1983), Richardson et al. (1995), and others. Exposure to in-water noise levels between 125 Hz and 38 kHz that are greater than 160 dB—for both impulsive and nonimpulsive sound sources—will be considered Level B harassment; thresholds for potentially injurious Level A harassment will be considered 232 dB peak or 203 dB SEL for impulsive sounds and 219 dB SEL for continuous sounds (table 1).

TABLE 1—TEMPORARY THRESHOLD SHIFT (TTS) AND PERMANENT THRESHOLD SHIFT (PTS) THRESHOLDS ESTABLISHED BY SOUTHALL ET AL. (2019) THROUGH MODELING AND EXTRAPOLATION FOR "OTHER MARINE CARNIVORES," WHICH INCLUDES SEA OTTERS.

Values are weighted for other marine carnivores' hearing thresholds and given in cumulative sound exposure level (SEL_{CUM} dB re 20µPa in air and SELCUM dB re 1 µPa in water) for impulsive and nonimpulsive sounds, and unweighted peak sound pressure level (SPL) in air (dB re 20µPa) and water (dB 1µPa) (impulsive sounds only).

	TTS			PTS		
	nonimpulsive	impulsive		nonimpulsive	impulsive	
	SEL_{CUM}	SEL_{CUM}	Peak SPL	SEL_{CUM}	SEL_{CUM}	Peak SPL
Air	157	146	170	177	161	176
Water	199	188	226	219	203	232

Evidence from Sea Otter Studies

The available studies of sea otter behavior suggest that sea otters may be more resistant to the effects of sound disturbance and human activities than other marine mammals. For example, at Soberanes Point, California, Riedman (1983) examined changes in the behavior, density, and distribution of southern sea otters that were exposed to recorded noises associated with oil and gas activity. The underwater sound sources were played at a level of 110 dB and a frequency range of 50 Hz to 20 kHz and included production platform activity, drillship, helicopter, and

semisubmersible sounds. Riedman (1983) also observed the sea otters during seismic airgun shots fired at decreasing distances from the nearshore environment (50, 20, 8, 3.8, 3, 1, and 0.5 nautical miles (nm)) at a firing rate of 4 shots per minute and a maximum air volume of 4,070 cubic inches (in^3). Riedman (1983) observed no changes in the presence, density, or behavior of sea otters as a result of underwater sounds from recordings or airguns, even at the closest distance of 0.5 nm (<1 km or 0.6 mi). However, otters did display slight reactions to airborne engine noise. Riedman (1983, 1984) also monitored the behavior of sea otters along the California coast while they were exposed to a single 1,638 cubic centimeter (cm^3) (100 in^3) airgun and a 67,006 cm^3 (4,089 in^3) airgun array. Sea otters did not respond noticeably to the single airgun, and no disturbance reactions were evident when the airgun array was as close as 0.9 km (0.6 mi).

While at the surface, turbulence from wind and waves attenuates noise more quickly than in deeper water, reducing potential noise exposure (Greene and Richardson 1988; Richardson et al. 1995). Additionally, turbulence at the water's surface limits the transference of sound from water to air. A sea otter with its head above water will be exposed to only a small fraction of the sound energy traveling through the water beneath it. The average time spent above the water each day resting and grooming varies between male and female sea otters and seasonally. Esslinger et al. (2014) found in the summer months (i.e., the season when the proposed action will take place), female otters foraged for an average of 8.78 hours per day while male otters foraged for an average of 7.85 hours per day. Male and female sea otters spent an average of 63 to 67 percent of their summer days at the surface resting and grooming. The amount of total time spent at the surface may help limit sea otters' exposure during noise-generating operations.

Sea otters generally show a high degree of tolerance to noise. In an exploration of potential deterrent techniques, Davis et al. (1988) found northern sea otters exhibited limited response to a variety of airborne and underwater sounds, including a warble tone, sea otter pup calls, killer whale (*Orcinus orca*) calls, air horns, and an underwater noise harassment system

designed to drive marine mammals away from crude oil spills. While these stimuli did elicit reactions including startle responses and movement away from noise sources, reactions were only observed within 100–200 m (328–656 ft) of noise sources. Further, otters appeared to become habituated quickly, in as little as 2 hours and at most 3–4 days.

In locations that lack frequent human activity, sea otters appear to have a lower threshold for outward signs of disturbance. Sea otters in Alaska have exhibited escape behaviors in response to the presence and approach of vessels. Behaviors included diving or actively swimming away from a boat, hauled-out sea otters entering the water, and groups of sea otters disbanding and swimming in multiple different directions (Udevitz et al. 1995). Sea otters in Alaska have also been shown to avoid areas with heavy boat traffic but return to those same areas during seasons with less traffic (Garshelis and Garshelis 1984). In Cook Inlet, otters drifting on a tide trajectory that would have taken them within 500 m (0.3 mi) of an active offshore drilling rig tended to swim to change their angle of drift to avoid a close approach despite near-ambient noise levels from the work (BlueCrest 2013).

Individual sea otters in Southeast Alaska will likely show a range of responses to noise from pile-driving activities. Some otters will likely show startle responses, change direction of travel, dive, or prematurely surface. Sea otters reacting to survey activities may divert time and attention from biologically important behaviors, such as feeding. Some animals may abandon the project area and return when the disturbance has ceased. Based on the observed movement patterns of wild sea otters (i.e., Lensink 1962; Kenyon 1969, 1981; Garshelis and Garshelis 1984; Riedman and Estes 1990; Estes and Tinker 1996), we expect some individuals, independent juveniles, for example, will respond to pile-driving activities by dispersing to areas of suitable habitat nearby, while others, especially breeding-age adult males, will not be displaced.

Consequences of Disturbance

The reactions of wildlife to disturbance can range from short-term behavioral changes to

long-term impacts that affect survival and reproduction. When disturbed by noise, animals may respond behaviorally (e.g., escape response) or physiologically (e.g., increased heart rate, hormonal response) (Harms et al. 1997; Tempel and Gutierrez 2003). The energy expense and associated physiological effects could ultimately lead to reduced survival and reproduction (Gill and Sutherland 2000; Frid and Dill 2002). For example, South American sea lions (*Otaria byronia*) visited by tourists exhibited an increase in the state of alertness and a decrease in maternal attendance and resting time on land, thereby potentially reducing population size (Pavez et al. 2015). In another example, killer whales that lost feeding opportunities due to boat traffic faced a substantial (18 percent) estimated decrease in energy intake (Williams et al. 2006). Such disturbance effects can have population-level consequences. Increased disturbance rates have also been associated with a decline in abundance of bottlenose dolphins (*Tursiops* sp.) (Bejder et al. 2006; Lusseau et al. 2006).

These examples illustrate direct effects on survival and reproductive success, but disturbances can also have indirect effects. Response to noise disturbance is considered a nonlethal stimulus that is similar to an antipredator response (Frid and Dill 2002). Sea otters are susceptible to predation, particularly from killer whales and eagles (*Accipitridae* spp.) and have a well-developed antipredator response to perceived threats. For example, Limbaugh (1961) found the presence of a harbor seal (*Phoca vitulina*) did not appear to disturb sea otters, but otters demonstrated a fear response in the presence of a California sea lion by actively looking above and beneath the water.

Although an increase in vigilance or a flight response is nonlethal, a tradeoff occurs between risk avoidance and energy conservation. An animal's reactions to noise disturbance may cause stress and direct an animal's energy away from fitness-enhancing activities such as feeding and mating (Frid and Dill 2002; Goudie and Jones 2004). For example, southern sea otters in areas with heavy recreational boat traffic demonstrated changes in behavioral time budgeting showing decreased time resting and changes in haul-out patterns and distribution (Benham et al.

2006; Maldini et al. 2012). Chronic stress can also lead to weakened reflexes, lowered learning responses (Welch and Welch 1970; van Polanen Petel et al. 2006), compromised immune function, decreased body weight, and abnormal thyroid function (Seyle 1979).

Changes in behavior resulting from anthropogenic disturbance can include increased agonistic interactions between individuals or temporary or permanent abandonment of an area (Barton et al. 1998). The extent of previous exposure to humans (Holcomb et al. 2009), the type of disturbance (Andersen et al. 2012), and the age or sex of the individuals (Shaughnessy et al. 2008; Holcomb et al. 2009) may influence the type and extent of response.

Effects on Habitat and Prey

Physical and biological features of habitat essential to the conservation of sea otters include the benthic invertebrates (urchins, mussels, clams, etc.) that otters eat and the shallow rocky areas and kelp beds that provide cover from predators. Important sea otter habitat in the project area include coastal areas within the 40-m (131-ft) depth contour where high densities of otters have been detected. The MMPA allows the Service to identify avoidance and minimization measures for effecting the least practicable adverse impact of the specified activity on important habitats. Pile-driving activities may impact sea otters within this important habitat; however, the project is not likely to cause lasting effects to habitat. Although a permanent floating dock is being constructed as a part of this project, the area where it is being placed is not likely to serve as important habitat as it is immediately adjacent to an existing operational dock.

The primary prey species for sea otters are sea urchins, abalone, clams, mussels, crabs, and squid (Tinker and Estes 1999). When preferential prey are scarce, otters will also eat kelp, turban snails (*Tegula* spp.), octopuses (e.g., *Octopus* spp.), barnacles (*Balanus* spp.), sea stars (e.g., *Pycnopodia helianthoides)*, scallops (e.g., *Patinopecten caurinus)*, rock oysters (*Saccostrea* spp.), worms *(*e.g., *Eudistylia* spp.), and chitons (e.g., *Mopalia* spp.) (Riedman and Estes 1990). A shift to less-preferred prey species may result in more energy spent foraging or processing the prey items; however, the impacts of a change in energy expenditure are not likely seen at the

population level (Newsome et al. 2015).

While any activity that may disturb the ocean bottom may cause a temporary increase in suspended sediment, turbidity is likely to have little impact on sea otters and prey species (Todd et al. 2015); however, there may be some impacts from increased sedimentation. Sea otters attempting to forage near these activities could have reduced visibility that may result in failed foraging attempts and a potential shift to less-preferred prey species. This scenario may result in more energy spent foraging or processing the prey items; however, the impacts of a change in energy expenditure are not likely seen at the population level (Newsome et al. 2015). Additionally, the benthic invertebrates may be impacted by increased sedimentation, which could alter the benthic community resulting in more opportunistic species that recover quickly to activities resulting in sedimentation, such as dredging (Kotta et al. 2009). Although foraging of sea otters could be impacted through sedimentation, it is more likely that sea otters would be temporarily displaced from the area due to noise and not from effects due to increased turbidity.

Several recent reviews and empirical studies have addressed the effects of noise on invertebrates (Carroll et al. 2017). Behavioral changes, such as an increase in lobster (*Homanus americanus*) feeding levels (Payne et al. 2007), an increase in wild-caught captive reef squid (*Sepioteuthis australis*) avoidance behavior (Fewtrell and McCauley 2012), and deeper digging by razor clams (*Sinonovacula constricta;* Peng et al. 2016), have been observed following experimental exposures to sound. Physical changes have also been seen in response to increased sound levels, including changes in serum biochemistry and hepatopancreatic cells in a lobster species (*H. americanus*; Payne et al. 2007) and long-term damage to the statocysts required for hearing in several cephalopod species (Andre et al. 2011; Sole et al. 2013).

The effects of increased sound levels on benthic invertebrate larvae have been mixed. Desoto et al. (2013) found impaired embryonic development in scallop (*Pecten novaezelandiae*) larvae when exposed to 160 dB. Christian et al. (2004) noted a reduction in the speed of egg development of bottom-dwelling crabs following exposure to noise; however, the sound level

(221 dB at 2 m or 6.6 ft) was far higher than the proposed construction activities will produce.

While these studies provide evidence of deleterious effects to invertebrates as a result of increased sound levels, Carroll et al. (2017) caution that there is a wide disparity between results obtained in field and laboratory settings. In experimental settings, changes were observed only when animals were housed in enclosed tanks and many were exposed to prolonged bouts of continuous, pure tones. We would not expect similar results in open marine conditions. It is unlikely that noises generated by survey activities will have any lasting effect on sea otter prey given the short-term duration of sounds produced by each component of the proposed work.

Potential Impacts on Subsistence Uses

The proposed specified activities will occur near marine subsistence harvest areas used by Alaska Natives from Ketchikan and the surrounding areas. The majority of sea otter harvests in these areas occur around Prince of Wales, Gravinia, and Kuiu Islands. Between 2018 and 2021, approximately 118 sea otters were harvested from these areas, averaging 30 per year (although numbers from 2021 are preliminary). Only two otters were taken in Ketchikan during this time period (one in 2020, one in 2021).

The proposed project would occur at an active USCG facility. The area potentially affected by the proposed project does not significantly overlap with current subsistence harvest areas. Construction activities will not preclude access to hunting areas or interfere in any way with individuals wishing to hunt. As a part of their environmental assessment completed in compliance with the National Environmental Policy Act, the USCG contacted the Ketchikan Indian Community and the Organized Village of Saxman. Both communities indicated that they did not have concerns with the project and do not believe it will impact the harvest of marine mammals. If any conflicts are identified in the future, the USCG will develop a Plan of Cooperation (POC) specifying the particular steps necessary to minimize any effects the project may have on subsistence harvest.

Mitigation and Monitoring

If an IHA for the project is issued, it must specify means for effecting the least practicable adverse impact on sea otters and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance and the availability of sea otters for subsistence uses by coastal-dwelling Alaska Natives.

In evaluating what mitigation measures are appropriate to ensure the least practicable adverse impact on species or stocks and their habitat, as well as subsistence uses, we considered the manner and degree to which the successful implementation of the measures are expected to achieve this goal. We considered the nature of the potential adverse impact being mitigated (likelihood, scope, range), the likelihood that the measures will be effective if implemented, and the likelihood of effective implementation. We also considered the practicability of the measures for applicant implementation (e.g., cost, impact on operations).

To reduce the potential for disturbance from acoustic stimuli associated with the activities, the applicants have proposed mitigation measures including the following:

- Development of a marine mammal monitoring and mitigation plan;
- Establishment of shutdown and monitoring zones;
- Visual mitigation monitoring by designated Protected Species Observers (PSO);
- Site clearance before startup;
- Limiting in-water activity to daylight hours;
- Soft-start procedures; and
- Shutdown procedures.

These measures are further specified under **Proposed Authorization**, part *B. Avoidance and Minimization*. The Service has not identified any additional (i.e., not already incorporated into the USCG request) mitigation or monitoring measures that are practicable and would further reduce potential impacts to sea otters and their habitat.

Estimated Incidental Take

Characterizing Take by Level B Harassment

As discussed in *Evidence from Sea Otter Studies*, an individual sea otter's reaction to human activity will depend on the otter's prior exposure to the activity, the potential benefit that may be realized by the individual from its current location, its physiological status, or other intrinsic factors. The location, timing, frequency, intensity, and duration of the encounter are among the external factors that will also influence the animal's response. The Service has identified the following sea otter behaviors as indicating possible Level B harassment:

- Swimming away at a fast pace on belly (i.e., porpoising);
- Repeatedly raising the head vertically above the water to get a better view (spyhopping) while apparently agitated or while swimming away;
- In the case of a pup, repeatedly spyhopping while hiding behind and holding onto its mother's head;
- Abandoning prey or feeding areas;
- Temporary disruption to nurse and/or rest (applies to dependent pups);
- Temporary disruption to rest (applies to independent animals);
- Temporary disruption to use movement corridors;
- Temporary disruption to mating behaviors;
- Shifting/jostling/agitation in a raft so that the raft disperses;
- Sudden diving of an entire raft; or
- Flushing animals off a haulout.

This list is not meant to encompass all possible behaviors; other situations may also indicate Level B harassment.

Reactions capable of causing injury are characterized as Level A harassment events. The project is not anticipated to result in Level A harassment due to exposure of otters to noise

capable of causing PTS. However, it is also important to note that, depending on the duration and severity of the above-described Level B harassment behaviors, such responses could constitute Level A harassment.

Calculating Take

We assumed all animals exposed to underwater sound levels that meet or exceed the acoustic exposure criteria shown in the TTS column of table 1 will experience take by Level B harassment due to exposure to underwater noise. Spatially explicit zones of ensonification were established around the proposed construction location to estimate the number of otters that may be exposed to these sound levels. We determined the number of otters present in the ensonification zones using density information generated by Eisaguirre et al. (2021).

The project can be divided into three major components: rock socket drilling, vibratory hammering, and pile-driving using an impact driver. Each of these components will generate a different type of in-water noise. Vibratory hammering will produce nonimpulsive or continuous noise, impact driving will produce impulsive noise, and down-the-hole rock socket drilling is considered to produce both impulsive and continuous noise (NMFS 2020).

The level of sound anticipated from each project component was established using recorded data from pile-driving in Kodiak, Alaska (a proxy for rock-socket drilling and vibratory hammering; Denes et al. 2016), and Eugene, Oregon (a proxy for impact driving; Caltrans 2020). The NMFS Technical Guidance and User Spreadsheet (NMFS 2018, 2020) was used to determine the distance at which sound levels would attenuate to Level A harassment thresholds, and empirical data from the proxy projects was used to determine the distance at which sound levels would attenuate to Level B harassment thresholds (table 2). The weighting factor adjustment included in the NMFS User Spreadsheet accounts for sound created in portions of an organism's hearing range where they have less sensitivity. We used the weighting factor adjustment for otariid pinnipeds (2), as they are the closest available physiological and anatomical proxy for sea otters. The spreadsheet also incorporates a transmission loss coefficient,

which accounts for the reduction in sound level outward from a sound source. We used the NMFS-recommended transmission loss coefficient of 15 for coastal pile-driving activities to indicate simple spread (NMFS 2020).

TABLE 2—SUMMARY BY PROJECT COMPONENT OF SOUND LEVEL, TIMING OF SOUND PRODUCTION, DISTANCE FROM SOUND SOURCE TO BELOW LEVEL A HARASSMENT AND LEVEL B HARASSMENT THRESHOLDS, DAYS OF IMPACT, OTTERS IN LEVEL B HARASSMENT ENSONIFICATION AREA, AND TOTAL OTTERS EXPECTED TO BE HARASSED THROUGH BEHAVIORAL DISTURBANCE.

Sound levels for all sources are unweighted and given in dB re 1 µPa. Nonimpulsive sounds are in the form of mean maximum root mean square (RMS) sound pressure level (SPL) as it is more conservative than cumulative sound exposure level (SEL) or peak SPL for these activities. Impulsive sound sources are in the form of SEL for a single strike (s-s).

Sound Source	Rock-socket drilling		Vibratory hammering	Impact driver
	Nonimpulsive	Impulsive		
Sound level	166 dB re 1µPa RMS SPL mean maximum at 10 m	154 dB SEL_{s-s}	155.5 dB re 1µPa RMS SPL mean maximum at 10 m	178 dB SEL_{s-s} (equivalent to 190 dB re 1µPa RMS)
Source	Denes et al. 2016	Denes et al. 2016	Denes et al. 2016	Caltrans 2020
Timing per pile	60 minutes/pile	60 minutes/pile 10 strikes/second 36,000 strikes/pile	6 minutes/pile	5 strikes/pile
Maximum piles per day	2	2	2	2
Maximum number of days	5		5	5
Distance to below Level A Harassment threshold	7.9 m (25.9 ft)		0.0 m (0.0 ft)	0.8 m (2.6 ft)
Distance to below Level B Harassment threshold	25 m (82 ft)		5 m (16 ft)	1,000 m (3,281 ft)
Sea otters in affected 400-m×400-m area	0.23		0.23	4.1
Potential sea otters affected by sound	1		1	5
Days of activity	5		5	5
Potential harassment events	5		5	25

To determine the number of sea otters that may experience in-water sound greater than 160 dB, we determined the number of sea otters present in each 400-m×400-m pixel of the sea otter density raster (figure 2) developed by Eisaguirre et al. (2021) and rounded these values to the nearest whole number. We estimated up to one otter may be present in the rock-socket drilling and vibratory hammering ensonification zones and up to five otters may be present in the

impact driving zone. Because these zones overlap (i.e., the otter in the rock-socket and vibratory hammering zones is also within the impact driving zone), we estimated the project will result in a total of five sea otters experiencing Level B harassment through behavioral change. One sea otter would experience this harassment for up to 15 days, and four sea otters would experience take for up to 5 days (table 2) for a total of 35 takes of 5 sea otters. No Level A harassment (i.e., injury) is anticipated or authorized. While in-water noise will be at a level capable of causing PTS from up to 7.9 m from the source location, operations will be shut down should any marine mammal come within 20 m of project activities.

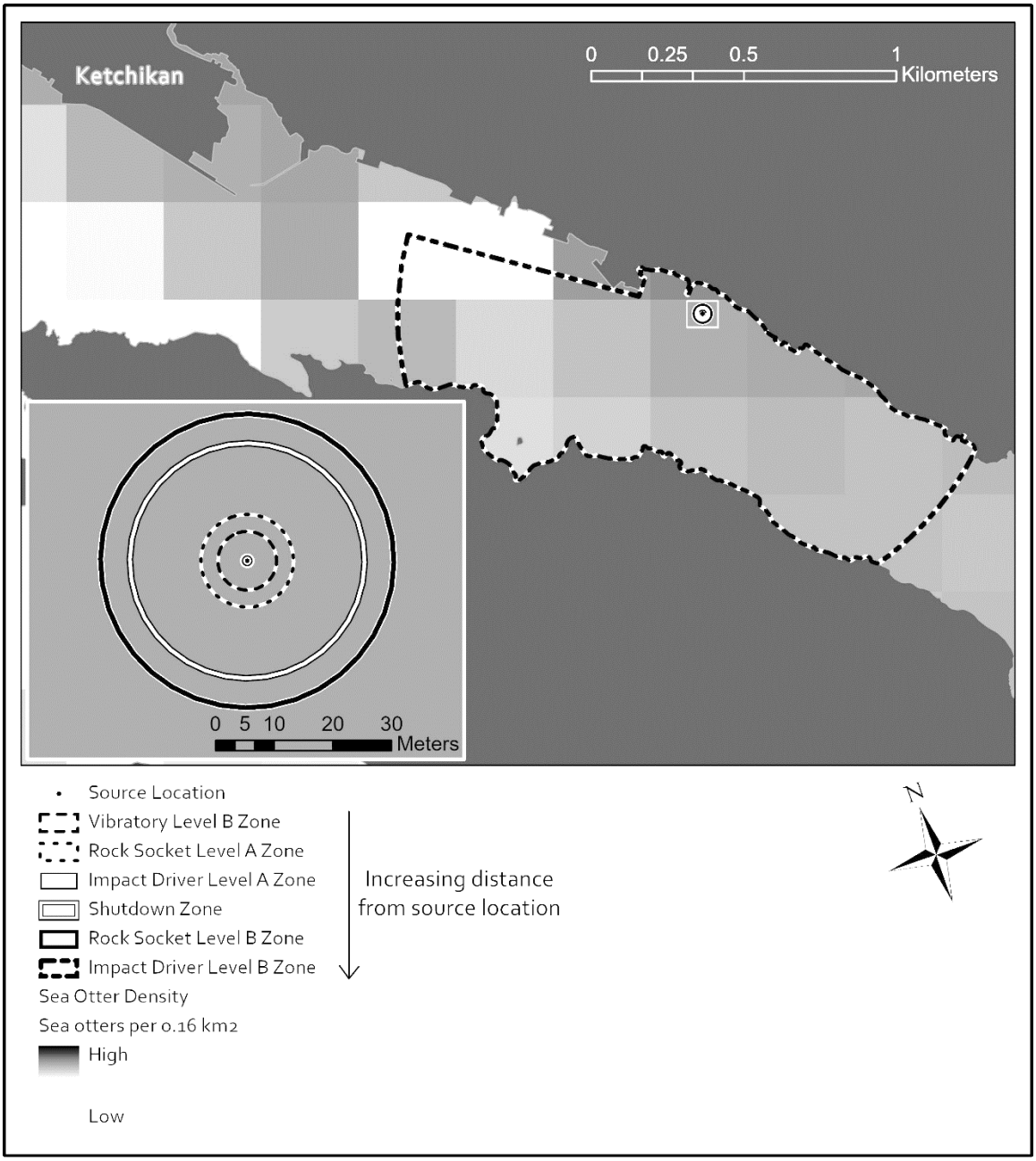

Figure 2. Project area, source location, and Level A Harassment and Level B Harassment ensonification zones for each project component overlaid on sea otter density raster by Eisaguirre et al. (2021).

Critical Assumptions

We estimate 35 takes of 5 sea otters by Level B harassment will occur due to the proposed specified activities. To conduct this analysis and estimate the potential amount of Level B harassment, several critical assumptions were made.

Otter density was calculated using a Bayesian hierarchical model created by Eisaguirre et al. (2021), which includes assumptions that can be found in the original publication.

Sound level estimates for construction activities were generated using sound source verification from recent pile-driving activities in Kodiak, Alaska, and Eugene, Oregon. Environmental conditions in these locations, including water depth, substrate, and ambient sound levels are similar to those in the project location but not identical. Further, estimation of ensonification zones were based on sound attenuation models using a simple spreading loss model. These factors may lead to actual sound values differing slightly from those estimated here.

Finally, the pile-driving activities described here will also create in-air noise. Because sea otters spend over half of their day with their heads above water (Esslinger et al. 2014), they will be exposed to increases in in-air noise from construction equipment. However, we have calculated Level B harassment with the assumption that an individual may be harassed only one time per 24-hour period, and underwater sound levels will be more disturbing and extend farther than in-air noise. Thus, while sea otters may be disturbed by noise both in air and underwater, we have relied on the more conservative underwater estimates.

Findings

Sea otters exposed to project-produced sounds are likely to respond with temporary behavioral modification or displacement. Project activities could temporarily interrupt the

feeding, resting, and movement of sea otters. Because activities will occur during a limited amount of time and in a localized region, the impacts associated with the project are likewise temporary and localized. The anticipated effects are short-term behavioral reactions and displacement of sea otters near active operations.

Sea otters that encounter the specified activity may exert more energy than they would otherwise due to temporary cessation of feeding, increased vigilance, and retreat from the project area. We expect that affected sea otters will tolerate this exertion without measurable effects on health or reproduction. The anticipated takes will be due to short-term Level B harassment in the form of TTS, startling reactions, or temporary displacement. Chronic exposure to sound levels that cause TTS may lead to PTS (which would constitute Level A harassment) under certain circumstances. While more research into the relationship between chronic noise exposure and PTS is needed (Finneran 2015), existing information indicates that the transition from temporary effects to permanent cellular damage requires a period of time greater than the duration of USCG's specified activities, and as such no PTS is anticipated to result from the USCG's specified activities (Southall et al. 2019).

Small Numbers

We estimate 35 instances of take by Level B harassment of 5 northern sea otters from the Southeast Alaska stock due to behavioral responses or TTS associated with noise exposure. These levels represent a small proportion of the most recent stock abundance estimate for the Southeast Alaska stock. Take of 5 otters is 0.019 percent of the best available estimate of the current population size of 26,347 animals in the Southeast Alaska stock (Eisaguirre et al. 2021) (5÷26,347=0.00019). Predicted levels of take were determined based on estimated density of sea otters in the project area and ensonification zones developed using empirical evidence from similar geographic areas. Based on these numbers, we propose a finding that the proposed project will take only a small number of marine mammals of a species or stock.

Negligible Impact

We propose a finding that any incidental take by level B harassment resulting from the proposed project cannot be reasonably expected to, and is not reasonably likely to, adversely affect the stock through effects on annual rates of recruitment or survival and, therefore, will have no more than a negligible impact on the Southeast Alaska stock of northern sea otters. In making this finding, we considered the best available scientific information, including the biological and behavioral characteristics of the stock, the most recent information on stock distribution and abundance within the area of the specified activities, the current and expected future status of the stock (including existing and foreseeable human and natural stressors), the potential sources of disturbance caused by the project, and the potential responses of marine mammals to this disturbance. In addition, we reviewed applicant-provided materials, information in our files and datasets, published reference materials, and species experts.

Sea otters are likely to respond to proposed activities with temporary behavioral modification or displacement. These reactions are unlikely to have consequences for the long-term health, reproduction, or survival of affected animals. Most animals will respond to disturbance by moving away from the source, which may cause temporary interruption of foraging, resting, or other natural behaviors. Affected animals are expected to resume normal behaviors soon after exposure with no lasting consequences. One otter is estimated to be exposed to construction noise for up to 15 days and four otters are estimated to be exposed to construction noise for up to 5 days, resulting in repeated exposures.

The proposed activities will result in a very small area of increased sound levels above the Level A harassment thresholds. However, the applicant has established a shutdown zone that is greater than the potential Level A harassment zone. Thus, no otters are expected to experience sounds at or above Level A harassment thresholds. Furthermore, Level A harassment is not anticipated as a result of chronic sound exposure because the duration of the specified activities is not believed to be sufficient to cause such effects. (Southall et al. 2019). The area that will

experience noise greater than Level B harassment thresholds due to rock-socket drilling and vibratory hammering is very small, and an animal that may be disturbed could easily escape the noise by moving to nearby quiet areas. Further, sea otters spend over half of their time above the surface during the summer months (Esslinger et al. 2014), thus their ears will not be exposed to continuous noise, and the amount of time it may take for permanent injury is considerably longer than that of mammals primarily under water. Some animals may exhibit more severe responses typical of Level B harassment, such as fleeing, ceasing feeding, or flushing from a haul-out. These responses could have temporary, yet significant, biological impacts for affected individuals but are unlikely to result in measurable changes in survival or reproduction.

Although the specified activities may result in approximately 35 incidental takes of 5 otters from the Southeast Alaska stock, we do not expect this level of harassment to affect annual rates of recruitment or survival or result in adverse effects on the stock.

Our proposed finding of negligible impact applies to incidental take associated with the proposed activities as mitigated by the avoidance and minimization measures identified in the USCG's mitigation and monitoring plan. These mitigation measures are designed to minimize interactions with and impacts to sea otters. These measures and the monitoring and reporting procedures are required for the validity of our finding, and adherence to them would be required in a final IHA if issued.

Impact on Subsistence

We propose a finding that the USCG's anticipated harassment will not have an unmitigable adverse impact on the availability of the Southeast Alaska stock of northern sea otters for taking for subsistence uses. In making this finding, we considered the lack of overlap between the timing and location of the proposed activities and the timing and location of subsistence harvest activities in the area of the proposed project. We also considered the applicant's consultation with subsistence communities, which indicated no conflicts, proposed measures for avoiding impacts to subsistence harvest, and commitment to development of a

POC, should any concerns be identified.

Required Determinations

National Environmental Policy Act (NEPA)

We have prepared a draft environmental assessment in accordance with the NEPA (42 U.S.C. 4321, et seq.). We have preliminarily concluded that authorizing 35 nonlethal, incidental takes by Level B harassment of up to 5 northern sea otters from the Southeast Alaska stock in the specified geographic region during the specified activities during the regulatory period would not significantly affect the quality of the human environment and, thus, preparation of an environmental impact statement for this IHA is not required by section 102(2) of NEPA or its implementing regulations. We are accepting comments on the draft environmental assessment as indicated above in **DATES** and **ADDRESSES.**

Endangered Species Act (ESA)

Under the ESA (16 U.S.C. 1536(a)(2)), all Federal agencies are required to ensure the actions they authorize are not likely to jeopardize the continued existence of any threatened or endangered species or result in destruction or adverse modification of critical habitat. The proposed project will occur entirely within the range of the Southeast Alaska stock of the northern sea otter, which is not listed as threatened or endangered under the ESA. The measures included in the proposed IHA will not affect other listed species or designated critical habitat.

Government-to-Government Consultation

It is our responsibility to communicate and work directly on a Government-to-Government basis with federally recognized Tribes in developing programs for healthy ecosystems. We are also required to consult with Alaska Native Claims Settlement Act (ANCSA) Corporations in certain circumstances. We seek their full and meaningful participation in evaluating and addressing conservation concerns for protected species. It is our goal to remain sensitive to Alaska Native culture and to make information available to Alaska Natives. Our

efforts are guided by the following policies and directives:

(1) The Native American Policy of the Service (January 20, 2016);

(2) the Alaska Native Relations Policy (currently in draft form);

(3) Executive Order 13175 (January 9, 2000) and the Presidential Memorandum on Indigenous Traditional Ecological Knowledge and Federal Decision Making (November 15, 2021);

(4) Department of the Interior Secretarial Orders 3206 (June 5, 1997), 3225 (January 19, 2001), 3317 (December 1, 2011), and 3342 (October 21, 2016); and

(5) the Department of the Interior's policies on consultation with Tribes and with Alaska Native Corporations.

We have evaluated possible effects of the proposed IHA on federally recognized Alaska Native Tribes and ANCSA Corporations. The Service has determined that authorizing the Level B harassment of up to five sea otters from USCG's specified activities would not have any Tribal implications or ANCSA Corporation implications and, therefore, Government-to-Government consultation or Government-to-ANCSA Corporation consultation is not necessary. However, we invite continued discussion, either about the project and its impacts or about our coordination and information exchange throughout the IHA/POC public comment process.

Proposed Authorization

We propose to authorize up to 35 incidental takes by level B harassment of 5 northern sea otters from the Southeast Alaska stock. This authorized take is limited to disruption of behavioral patterns that may be caused by construction activities conducted by the USCG in Ketchikan Alaska, from July 1, 2022, to June 30, 2023. We anticipate no Level A harassment or mortality to northern sea otters resulting from the activities.

A. General Conditions for Issuance of the Proposed IHA

1. The taking or harassment of northern sea otters from the Southeast Alaska stock whenever the required conditions, mitigation, monitoring, and reporting measures are not fully implemented as required by the IHA will be prohibited. Failure to follow measures specified may result in the suspension or revocation of the IHA.

2. If take exceeds the level or type identified in the proposed authorization (e.g., greater than 35 incidents of incidental take of 5 otters by Level B harassment), the IHA will be invalidated and the Service will reevaluate its findings. If project activities cause unauthorized take, such as Level A harassment due to pile-driving noise, acute distress, or any indication of the separation of mother from pup, the USCG must take the following actions: (i) cease its activities immediately (or reduce activities to the minimum level necessary to maintain safety); (ii) report the details of the incident to the Service's Marine Mammal Management (MMM) office within 48 hours; and (iii) suspend further activities until the Service has reviewed the circumstances, determined whether additional mitigation measures are necessary to avoid further unauthorized taking, and notified the USCG that it may resume project activities.

3. All operations managers and machine operators must receive a copy of the IHA and maintain access to it for reference at all times during project work. These personnel must understand, be fully aware of, and be capable of implementing the conditions of the IHA at all times during project work.

4. The IHA will apply to activities associated with the proposed project as described in this document and in the USCG request (USCG 2021). Changes to the proposed project without prior authorization may invalidate the IHA.

5. The USCG's request will be approved and fully incorporated into the IHA, unless exceptions are specifically noted herein or in the final IHA. The application includes:

- The USCG's original request for an IHA, dated July 22, 2021; and
- A revised application, dated September 10, 2021.

6. Operators will allow Service personnel or the Service's designated representative to

visit project work sites to monitor impacts to sea otters and subsistence uses of sea otters at any time throughout project activities so long as it is safe to do so. “Operators” are all personnel operating under the USCG’s authority, including all contractors and subcontractors.

B. Avoidance and Minimization

7. Construction activities must be conducted using equipment that generates the lowest practicable levels of underwater sound within the range of frequencies audible to sea otters.

8. During all pile-installation activities, regardless of predicted sound levels, a physical interaction shutdown zone of 20 m (66 ft) must be enforced. If a sea otter enters the shutdown zone, in-water activities must be delayed until either the animal has been visually observed outside the shutdown zone, or 15 minutes have elapsed since the last observation time without redetection of the animal.

9. If the impact driver has been idled for more than 30 minutes, an initial set of three strikes from the impact driver must be delivered at reduced energy, followed by a 1-minute waiting period, before full-powered proofing strikes.

10. In-water activity must be conducted in daylight. If environmental conditions prevent visual detection of sea otters within the shutdown zone, in-water activities must be stopped until visibility is regained.

C. Monitoring

11. Operators will work with PSOs to apply mitigation measures and will recognize the authority of PSOs up to and including stopping work, except where doing so poses a significant safety risk to personnel.

12. Duties of the PSOs include watching for and identifying sea otters, recording observation details, documenting presence in any applicable monitoring zone, identifying and documenting potential harassment, and working with operators to implement all appropriate mitigation measures.

13. Monitoring of the shutdown zone must continue for 30 minutes following completion

of pile installation.

D. Measures to Reduce Impacts to Subsistence Users

14. Prior to conducting the work, the USCG will take the following steps to reduce potential effects on subsistence harvest of sea otters:

- Avoid work in areas of known sea otter subsistence harvest;
- Discuss the planned activities with subsistence stakeholders including Southeast Alaska villages and traditional councils;
- Identify and work to resolve concerns of stakeholders regarding the project's effects on subsistence hunting of sea otters; and
- If any concerns remain, develop a POC in consultation with the Service and subsistence stakeholders to address these concerns.

E. Reporting Requirements

15. The USCG must notify the Service at least 48 hours prior to commencement of activities.

16. Reports will be submitted to the Service's MMM weekly during project activities. The reports will summarize project work and monitoring efforts.

17. A final report will be submitted to the Service's MMM within 90 days after completion of work or expiration of the IHA. It will summarize all monitoring efforts and observations, describe all project activities, and discuss any additional work yet to be done. Factors influencing visibility and detectability of marine mammals (e.g., sea state, number of observers, fog, and glare) will be discussed. The report will describe changes in sea otter behavior resulting from project activities and any specific behaviors of interest. Sea otter observation records will be provided in the form of electronic database or spreadsheet files. The report will assess any effects the USCG's operations may have had on the availability of sea otters for subsistence harvest and if applicable, evaluate the effectiveness of the POC for preventing impacts to subsistence users of sea otters.

18. Injured, dead, or distressed sea otters that are not associated with project activities (e.g., animals found outside the project area, previously wounded animals, or carcasses with moderate to advanced decomposition or scavenger damage) must be reported to the Service within 24 hours of discovery. Photographs, video, location information, or any other available documentation shall be provided to the Service.

19. All reports shall be submitted by email to *fw7_mmm_reports@fws.gov*.

20. The USCG must notify the Service upon project completion or end of the work season.

Request for Public Comments

If you wish to comment on this proposed authorization, the associated draft environmental assessment, or both documents, you may submit your comments by any of the methods described in **ADDRESSES**. Please identify if you are commenting on the proposed authorization, draft environmental assessment or both, make your comments as specific as possible, confine them to issues pertinent to the proposed authorization or draft environmental assessment, and explain the reason for any changes you recommend. Where possible, your comments should reference the specific section or paragraph that you are addressing. The Service will consider all comments that are received before the close of the comment period (see **DATES**).

Comments, including names and street addresses of respondents, will become part of the administrative record for this proposal. Before including your address, telephone number, email address, or other personal identifying information in your comment, be advised that your entire comment, including your personal identifying information, may be made publicly available at any time. While you can ask us in your comments to withhold from public review your personal identifying information, we cannot guarantee that we will be able to do so.

Peter Fasbender,

Assistant Regional Director, Fisheries and Ecological Services, Alaska Region.

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